Multiple extraction and voice in Toba Batak

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Toba Batak has a Malay/Indonesian-type voice system and is thought to only allow extraction of one DP at a time (Cole and Hermon, 2008).

1. **Multiple, simultaneous extractions** to the left-periphery—including extraction of multiple DPs—is possible, under certain circumstances.
   - When multiple DPs are fronted, voice morphology tracks the DP moved to **immediately preverbal** position.

2. The pattern of possible multiple extractions motivates a **head-splitting view of the C-T connection** (Martinović, 2015; Aldridge, 2015): CT starts as a single head, but sometimes splits.
   - Different probes associated with C and T, but they **first probe together**.
Batak Toba

- Often simply *Hata Batak* ‘Batak language’
- Spoken in northern Sumatra, around Lake Toba
- Two million speakers, according to Ethnologue
- Data here from elicitation with two speakers in Singapore
§1  Background
§2  Multiple extractions
§3  Proposal
§1 Background
  • Voice in Toba Batak; previous work
  • ā-movements

§2 Multiple extractions

§3 Proposal
Voice in Toba Batak

Toba Batak exhibits a two-way voice alternation, similar to Malay/Indonesian languages: (PN = proper name marker)

(1) Schachter (1984a, p. 123):

a. Mang-ida si Ria si Torus.
   \text{ACT-see} \quad \text{PN Ria PN Torus}

b. Di-ida si Torus si Ria.
   \text{PASS-see PN Torus PN Ria}

‘Torus saw Ria.’

The voice prefix tracks the choice of pivot argument (here sentence-final). I refer to \textit{maN}- (16a) as \textsc{active} and \textit{di-} (16b) as \textsc{passive}. 
Verb-initial order is the canonical declarative order, but more than one third of declaratives in some texts have a fronted pivot (Cumming, 1984):

(2) a. **Si Torus** [mang-ida si Ria ____].
    PN Torus ACT-see PN Ria

    b. **Si Ria** [di-ida si Torus ____].
    PN Ria PASS-see PN Torus

    ‘Torus saw Ria.’

Cumming (1984) describes this fronting as associated with topicality and reports that such fronted topics are “overwhelmingly definite” or generic.
In transitive clauses, the DP argument that is *not* the pivot (Schachter’s “internal noun phrase”) must be strictly verb-adjacent:

(3) **Adding nantoari ‘yesterday’ to (16a,b):** (Schachter, 1984a, p. 125)

a. (✓ Nantoari) mang-ida (⋆) si Ria (✓) si Torus (✓).
   \[\text{ACT-see} \quad \text{PN} \text{ Ria} \quad \text{PN} \text{ Torus}\]

b. (✓ Nantoari) di-ida (⋆) si Torus (✓) si Ria (✓).
   \[\text{PASS-see} \quad \text{PN} \text{ Torus} \quad \text{PN} \text{ Ria}\]

‘Torus saw Ria yesterday.’

Emmorey (1984) shows that this argument always forms a unit together with the verb for the purposes of nuclear stress assignment.
Voice in Toba Batak: Extracting a DP

If a DP is fronted, it must be the pivot:

(4) **Actor wh-question:**
   a. ✓ *Ise [mang-allang pinahan-on ____]?*
      who ACT-eat pork-this
   b. *Ise [di-allang ____ pinahan-on]?*
      who PASS-eat pork-this

   ‘Who ate this pork?’

(5) **Patient wh-question:**
   a. *Aha [ma-nuhor ____ si Poltak]?*
      who ACT-buy PN Poltak
   b. ✓ *Aha [di-tuhor si Poltak ____]?*
      who PASS-buy PN Poltak

   ‘What did Poltak buy?’
Fronting of non-DPs does not interact with voice; both voices are possible, with corresponding postverbal word order:

(6) **Oblique wh-question:**

a. ✓ [Tu ise] [ma-nuhor buku si Poltak]?
   DAT who ACT-buy book PN Poltak

b. ✓ [Tu ise] [di-tuhor si Poltak buku]?
   DAT who PASS-buy PN Poltak book
   ‘[For who] did Poltak buy the book?’

(4–6) are my examples but Clark (1984, 1985) and Cole and Hermon (2008) describe the same pattern.
Based on such facts, Cole and Hermon (2008) argue for a *V(oice)P-fronting* analysis for Toba Batak clauses:

- The non-pivot DP argument, if there is one, stays in-situ in VoiceP;
- All other arguments are moved out of VoiceP;
- VoiceP remnant-moves, freezes;

⇒ The non-pivot DP argument will be adjacent to the verb and cannot subsequently move

Related to more general questions about the derivation of verb-initiality; see also discussion in Chung (2008).
Two types of \( \bar{A} \)-movements will be relevant here: \textit{wh-movement} and \textit{focus movement}.

\textit{Wh}-words prefer to front, but can stay in-situ. \textit{Wh}-in-situ is not an echo question, as diagnosed by question embedding:

\begin{enumerate}
\item \textbf{True optional \textit{wh-movement}:}
\begin{enumerate}
\item \textit{Hu-boto [ise [mang-allang pinahan]].}
\textit{PASS.1sg-know who \textit{ACT-eat} pork}
\item \textit{Hu-boto [mang-allang pinahan \textit{ise}].}
\textit{PASS.1sg-know \textit{ACT-eat} pork who}
\item \textit{Hu-boto [di-allang \textit{ise} pinahan].}
\textit{PASS.1sg-know \textit{PASS-eat} who pork}
\end{enumerate}
\end{enumerate}

‘I know [who ate the pork].’
A-movements: *wh*-non-DPs

(8) *Wh*-movement is optional for adjuncts too:

a. *Andigan* ma-nuhor buku si Poltak?
   when ACT-buy book PN Poltak

b. Ma-nuhor buku si Poltak *andigan*?
   ACT-buy book PN Poltak when

c. Ma-nuhor buku *andigan* si Poltak?
   ACT-buy book when PN Poltak
   ‘When did Poltak buy the book?’

(Passive variants all possible, with positions of Poltak and book reversed.)
Only-phrases are also best when fronted:

(9) **Focus-fronting preferred but both ok:**

a. [Hol an si Pol tak] [mang-allang indahan ____].
   only PN Pol tak ACT-eat rice

b. Mang-allang indahan [holan si Pol tak].
   ACT-eat rice only PN Pol tak

‘Only POLTAK ate rice.’
Roadmap

§1 Background
§2 Multiple extractions
§3 Proposal
Q1: Can you front two DPs at the same time?
A1: At first glance, no.

(10) *Wh-actor, regular DP patient:
‘Who ate the pork?’
   a. /se [mang-alang pinahan ____]?  
      who ACT-eat pork
   b. Pinahan-on [di-allang /se ____]?
      pork-this PASS-eat who
   c. * /se pinahan-on [mang/di-allang ___ ____]?
      who pork-this ACT/PASS-eat

Cole and Hermon (2008, p. 183) discuss data such as (10c, 11c) and say this is predicted by their account.
Multiple extractions: $wh$-DP + DP

Q1: Can you front two DPs at the same time?
A1: At first glance, no.

(11) $Wh$-patient, regular DP actor:
‘What did Poltak buy?’

a. $Aha$ [di-tuhor si Poltak $\text{____]}$?
   what $\text{PASS-buy PN Poltak}$

b. $\text{Si Poltak [ma-nuhor } aha \text{ $\text{____]}$]}$?
   $\text{PN Poltak ACT-buy what}$

c. $^*$ $Aha$ si Poltak [maN/di-tuhor $\text{__ __]}$]
   what $\text{PN Poltak ACT/PASS-buy}$

Cole and Hermon (2008, p. 183) discuss data such as (10c, 11c) and say this is predicted by their account.
Multiple extractions: *wh*-DP + *only*-DP

**Q2:** But what if they’re both $\bar{A}$-operators that prefer to front?

**A2:** They can both be fronted!

(12) **Wh-actor, only patient:**

‘Who ate only rice/pork?’

a. $lse \ [\text{mang-allang holan indahan } \underline{\text{____}}]?$
   \hspace{1cm} \text{who } \text{ACT-eat } \text{only } \text{rice}

b. Holan pinahan [di-allang $lse \underline{\text{____}}]?$
   \hspace{1cm} \text{only } \text{pork } \text{PASS-eat } \text{who}

c. $lse \ \text{holan pinahan } [\{\text{*mang/}\checkv \text{di}\}-\text{allang } \underline{\text{____}}]?$
   \hspace{1cm} \text{who } \text{only } \text{pork } \{\text{*ACT/}\checkv \text{PASS}\}-\text{eat}
Q2: But what if they’re both $\bar{A}$-operators that prefer to front?

A2: They can both be fronted!

(13) **Wh-patient, only actor:**

‘What did only Poltak eat?’

a. $Aha$ [di-allang holan si Poltak ____]?  
   what PASS-eat only PN Poltak

b. Holan si Poltak [mang-allang $aha$ ____]?  
   only PN Poltak ACT-eat what

c. $Aha$ holan si Poltak [{✓mang/*di}-allang ____]?  
   what only PN Poltak {✓ACT/*PASS}-eat
A3: I’m glad you asked!

(14) Non-DP *wh*, regular DP:

a. *Andigan* buku-i [{*maN/√di}-tuhor ho ___]? when book-that {*ACT/√PASS}-buy 2sg
‘When did you buy that book?’

b. *Andigan* si Poltak [{√maN/*di}-tuhor buku ____]? when PN Poltak {*ACT/*PASS}-buy book
‘When did Poltak buy the book?’
Lesson 1: The non-pivot DP (internal noun phrase) can be moved, in certain circumstances, contra Cole and Hermon (2008).

Lesson 2: Voice tracks the choice of immediately preverbal DP.
§1 Background

§2 Multiple extractions

§3 Proposal
  • Voice
  • Technical background: C and T
  • Proposal
Recall that when multiple DPs are extracted, **voice tracks the immediately preverbal DP.**

- The pivot DP is fronted first.
- The pivot DP is in a designated position (Guilfoyle, Hung, and Travis, 1992, a.o.) at the edge of the lower phase. DP probing from above will find the pivot first.
Working assumptions for voice (Erlewine, Levin, and Van Urk, 2015, to appear, in progress):

a. One DP (the pivot) is attracted to a designated position (but may be pronounced low or to the right)

b. Voice morphology tracks this choice of pivot.

c. DPs need licensing (abstract Case):
   - the pivot DP must be licensed from above (nominative)
   - one DP (the non-pivot) can be licensed by PF adjacency with the verb (Levin, 2015, and references there)

⇒ this is the source of strict verb-adjacency for the non-pivot argument (when postverbal)

The voice details in (16) could conceivably be swapped out for different approaches to voice morphology.
Voice in Batak

VoiceP is the lower phase; actors are generated in Spec,vP below Voice (pace Legate, 2014). **The pivot is Spec,VoiceP** (pronounced to the right).

**Active voice:**

```
VoiceP

Voice+ν+V

verb-adjacent

VP

t

νP

tν+ν

(verb-adjacent)
```
Voice in Batak

VoiceP is the lower phase; actors are generated in Spec,vP below Voice (pace Legate, 2014). The pivot is Spec,VoiceP (pronounced to the right).

Passive voice:
Traditional division of labor: (Chomsky, 1986, a.o.)

a. C: \( \bar{A} \)-movement probe(s)

b. T: A-movement probe, fills Spec,TP with one DP (EPP)

\[
\begin{align*}
CP & \\
C & TP \\
\bar{A}\text{-probe(s)} & T \\
& \ldots \\
& A\text{-probe with EPP,} \\
& \phi\text{-agreement,} \\
& \text{nominative case, etc.}
\end{align*}
\]
Many languages exhibit an interdependence between C and T (see e.g. Fortuny, 2008 for a review), motivating a tighter connection:

- **Feature inheritance**: T features originate on C (Chomsky, 2008; Ouali, 2008; Fortuny, 2008; Legate, 2011, a.o.)
- **CT splitting**: C and T begin as a single head, with option of splitting (Martinović, 2015; Aldridge, 2015, last talk)
  
  “the splitting occurs in cases where a feature cannot be checked... or because there is no available position for its goal to move into.”  
  
  Martinović (2015, p. 64)
Proposal:

a. I adopt CT splitting: **CT starts as one head**

b. C is associated with a probe for *wh-* and *only-*phrases: \([u_{\text{FOC}}]\)

   (cf last talk’s \([u_{\text{WH}}]\))

c. T is associated with a probe for a DP: \([u_{D}]\)

   (cf last talk’s \([u_{\phi}]\))

d. These probes can (Case-)license their agreement targets; subsequent movement is generally optional

e. **CT will first probe to satisfy** \([u_{D}, u_{\text{FOC}}] together; C and T split if no** \([D, \text{FOC}]\) **target is found.**

   (Partially matching targets will trigger defective intervention.)
CT probes for $[uD,u_{FOC}]$ *together*:

![Diagram](image_url)

Agrree; license the pivot; optionally move to preverbal position
Two \texttt{FOC} DPs at the edge

CT probes for $[uD,u\text{FOC}]$ together \textit{again}:

$\text{CTP} \quad \text{DP}_{\text{FOC}} \quad \text{CT} \quad \text{VoiceP} \quad [uD,u\text{FOC}]$

$\text{DP}_{\text{FOC}}$ (pivot)

$\text{DP}_{\text{FOC}}$ (non-pivot)

$t$

Agree; \textbf{license the non-pivot}; move to preverbal position

Postverbal non-pivot DPs need verb-adjacency for licensing, but multiple fronting (agreeing with CT) satisfies licensing.
Non-\textit{foc} DP pivot

CT probes for $[\text{uD}, \text{uFoc}]$ together:

\[\text{CTP} \quad \text{CT} \quad [\text{uD}, \text{uFoc}] \quad \text{VoiceP} \quad \text{DP} \quad \text{(pivot)} \quad \text{Voice}\]

\[\text{If the pivot is not} \; [\text{Foc}], \; \text{CT will not find any} \; [\text{D,Foc}] \; \text{target} \; \text{at the lower phase edge, and must split into C and T.}\]
Non-foc DP pivot

C and T splits; T probes for [uD]:

```
CP
  /   \\
C   TP
  /  \  \\
 [u_foc] T [uD]
   /   \   /   \\
 DP (pivot) VoiceP Voice
```

Agree; license the pivot; optionally move
Non-\textit{foc} DP pivot

C probes for $[u_{\text{foc}}]$:

```
CP
  /
 C  TP
  /
  /
[u_{\text{foc}}]  T
  /
 [uD]  VoiceP
  /
 DP
 (pivot)  Non-\textit{dp}[_{\text{foc}}]
  /
  Voice
```

Agree; move the \textit{foc} non-DP
Summary, based on (15):

a. DP V... CT splits; T attracts pivot
b. DP[FOC] V... CT attracts pivot
c. * DP[wh] DP V... CT sees non-FOC pivot; CT must split;
   (defective intervention)
d. DP[wh] DP[only] V... CT attracts pivot; probes again
e. Non-DP[wh] DP V... CT splits; T attracts pivot; C probes
Conclusion

1. **Multiple DPs can be simultaneously extracted**, but only if both are formally focused (*wh* or *only*).
   - Motivates *initial joint probing* by [*uD*] and [*uFOC*], then separate probing;
   - In turn motivates a **CT-splitting approach** as in Martinović (2015); Aldridge (2015): [*uD*] and [*uFOC*] **must start on the same head**.

2. **The non-pivot DP can move**, contra Cole and Hermon (2008)
   - Takes away the primary motivation for V(oice)P-fronting;
   - Adjacency facts are better explained by a need for **licensing by adjacency** (Levin, 2015);
   - Voice tracks the pivot, which will be the **first DP attracted** (if any).
Some further directions for study:

- $A$- and $\bar{A}$-properties of these movements
- Multiple non-DP extractions
- Left-dislocated topics, as in Cumming (1984)
Thank you! Questions?

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Aldridge, Edith. 2015. Origin of the extraction restriction. LSA 2015 summer institute lecture notes.


